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(54) RECORDER, RECORDING METHOD AND CHARGING METHOD

(57)Abstract:

PROBLEM TO BE SOLVED: To correctly retrieve and store additional information by controlling additional information generated based on inputted identification information so as to be associated with data read from a first storage medium when the data read from the first storage medium are recorded into a second storage medium.

SOLUTION: Various kinds of additional information are stored into a data base being source from which additional information is obtained by a recording/ reproducing device stores various kinds of additional information corresponding to a bar code number to be peculiarly indicated for every CD title as a merchandise. The database in which additional information peculiar to each merchandise title is correctly classified/stored is realized by storing album information, track information and further information related to the album corresponding to each bar code number. Corresponding additional information is correctly retrieved for every CD as each merchandise title by using the bar code number as a retrieval trigger of the database.

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DETAILED DESCRIPTION

[Detailed Description of the Invention]**[0001]**

[Field of the Invention] This invention relates to the recording device and the record approach of recording and storing the data from the storage offered as package media.

[0002]

[Description of the Prior Art] Various kinds of things have spread as an audio-visual device which a user owns, and it has become common to enjoy a music title and image software individually. For example, a user owns the audio system corresponding to disk storages, such as CD (compact disk (trademark)) and MD (mini disc (trademark)), etc., purchase desired CD currently sold as package media, MD, etc., and it is made to reproduce, or the thing of creating the original disk by favorite song selection of one using MD which is recordable media is performed. MD (MINI DISC) is an optical disk with a diameter of 64mm or a magneto-optic disk, and is media by which record of the compression voice for about 80 minutes is enabled here. On these specifications, it is written as "MD."

[0003]

[Problem(s) to be Solved by the Invention] By the way, development of the record regenerative apparatus which accumulates an audio data file and a video-data file as a new audio-visual device which is not conventionally using mass media, such as a hard disk, is furthered. For example, a record regenerative apparatus carries out dubbing record of the musical piece recorded on the package media which users, such as CD, own at the hard disk in the record regenerative apparatus etc. All the musical pieces in much CDs which a user owns etc. are storable in a record regeneration system by using mass storages, such as a hard disk, with a record regenerative apparatus.

[0004] Then, a user does not need to load a record regenerative apparatus in search of CD with which the musical piece was recorded specially to reproduce [user] a certain musical piece etc. Namely, a record regenerative apparatus reads the musical piece specified by the user from a hard disk, and should just reproduce it. Therefore, such a record regenerative apparatus will become very convenient for the user who owns a lot of CD etc. especially. Moreover, since it becomes unnecessary [exchange of CD etc.], it becomes possible easily to enjoy music by the song selection according to the temper and situation of the day etc.

[0005] Moreover, if the portable record regenerative apparatus which can move or copy data, such as a musical piece, for example from the hard disk of the record regenerative apparatus etc. is prepared, a user chooses a musical piece to listen to out of many musical pieces on that day, makes a portable record regenerative apparatus perform a copy etc. from a record regenerative apparatus, and it can make it possible to reproduce him with the portable record regenerative apparatus.

[0006] It thinks also storing the information relevant to music etc. with such a record regenerative apparatus and a portable record regenerative apparatus, as additional information it not only stores music data in the hard disk, but added to data, such as that music, in order to make this record regenerative apparatus into a music server with more high added value although music etc. can be easily enjoyed now of the user. The information relevant to music etc. is the information of the album title corresponding to

the music data dubbed from CD, an artist name, the music name of each music, a lyrics composer, etc., the graphical data as an album jacket, an artist's photograph data, etc. If the record regenerative apparatus stores such additional information with music data etc., related images, such as an album jacket and a photograph, can be shown to a user at a music name, a player name, and a pan at the time of musical playback.

[0007] Considering that a user performs data dubbing from CD on hand to the hard disk of a record regenerative apparatus here, how the additional information about the dubbed data is incorporated poses a problem. The service organization which offers additional information is prepared as one technique, and it is possible that a service organization is connected with the record regenerative apparatus which a user owns in communication link Rhine. That is, in case a user dubs the music data from CD to own to the hard disk in the record regenerative apparatus to own, a record regenerative apparatus transmits the identification information which can identify the CD (that is, title classification as goods of CD) to a service organization. Then, a service organization distinguishes the contents of CD (an album title, an artist, music name, etc.) based on the identification information, and transmits to a record regenerative apparatus by making them into additional information. The transmitted additional information is made to correspond with music data, and a record regenerative apparatus should just record it on a hard disk.

[0008] And since the information (that is, information used as the retrieval trigger of additional information) for distinguishing the contents of CD has that desirable from which a record regenerative apparatus is the information which can be incorporated from CD, and serves as original data for every (every goods title) contents of CD, it can consider considering as the data of TOC (Table of Contents) which is the management information of CD. In this case, what is necessary is just to prepare the database which TOC data were made to correspond and stored addition data for every goods title about CD currently sold to the commercial scene in a service organization side.

[0009] However, by the case where such a system is considered, when the retrieval trigger of additional information is used as TOC data, there is a problem that the additional information which was mistaken as a retrieval result may be acquired. Although the number of trucks recorded by TOC, the starting position of each truck, etc. are managed with CD the well-known passage, TOC data may become the same even if it is CD of a different title. Moreover, even if it is CD of the same title, TOC data may differ under the situation of a disk production process etc. for this reason, when TOC data are made into a retrieval trigger, the additional information which is completely unrelated will not be offered about the data from dubbed CD, or additional information is not acquired -- like -- things may occur and the dependability as a system is missing.

[0010]

[Means for Solving the Problem] When it stores in the 2nd storage the data reproduced from the 1st storage offered as package media in view of such a trouble, it searches additional information correctly, and this invention relates it with the data reproduced from the 1st storage, is stored, and aims at aiming at function of a recording device, and improvement in dependability.

[0011] For this reason, in this invention, the data read from the 1st storage are set to the recording device recorded on the 2nd storage. A record means to record the data read from the 1st storage of the above on the 2nd storage of the above, When an input means to input the identification information which identifies the 1st storage of the above according to actuation, and the above-mentioned record means record the data read from the 1st storage of the above on the 2nd storage of the above, Or after recording, it has the control means controlled so that the additional information generated based on the identification information inputted by the above-mentioned input means is related with the data read from the 1st storage of the above. Identification information is information to which a different value at least for every contents of the data in the 1st storage is set here, for example, it is the information which can identify the product title as contents of data set up as a record number, a quotient lot number number, etc. This identification information is also the information which the 1st storage or its package is shown as a bar code. That is, the retrieval mistake of a database is canceled by using the identification information made into the value of a proper for every contents about the 1st storage (for example, CD etc.) at least.

[0012] Moreover, the record procedure which records the data read from the 1st storage on the 2nd storage as the record approach of this invention, When recording the input procedure which inputs the identification information which identifies the 1st storage of the above according to actuation, and the data read from the 1st storage of the above on the 2nd storage of the above, Or after recording, the control procedure controlled so that the additional information generated based on the identification information inputted in the above-mentioned input procedure is related with the data read from the 1st storage of the above is made to be performed.

[0013] Moreover, the record procedure in which the data read from the 1st storage as the accounting approach of this invention based on directions of a user are recorded on the 2nd storage, The additional information generation procedure which generates additional information based on the identification information which identifies the 1st storage of the above, The control procedure which controls the additional information generated in the above-mentioned additional information generation procedure to be related with the data read from the 1st storage of the above, the accounting procedure of performing accounting to the above-mentioned user according to the above-mentioned additional information related with the above-mentioned data, and ** are made to be performed.

[0014]

[Embodiment of the Invention] Hereafter, although the record regenerative apparatus as a gestalt of operation of this invention is explained, the example of a system first built with the record regenerative apparatus is described, and the characteristic example of operation in a record regenerative apparatus is explained after that. In addition, it is realizable as actuation as an information distribution system explained below, and characteristic actuation of the record regenerative apparatus of this example is realizable also as actuation with the record regenerative-apparatus simple substance which left the system. Explanation is given in the following order.

1. Example 3 of Operation at Time of of Operation Example 29.CD-HDD Dubbing at Time of of Operation Example 18.CD-HDD Dubbing at Time of File Storing Gestalt 7.CD-HDD Dubbing of Internal Configuration 5. File Migration Processing 6. Record Regenerative Apparatus of Internal Configuration 4. Pocket Equipment of Example of Appearance 3. Record Regenerative Apparatus of Outline 2. Record Regenerative Apparatus of Information Distribution System, and Pocket Equipment

[0015] 1. The schematic diagram 1 of an information distribution system shows the outline of an information distribution system in which the record regenerative apparatus of this example is contained. This information distribution system consists of a record regenerative apparatus 10 which a general user uses at a home 2 etc., and an information centre 1 as a data utility organization about use of the record regenerative apparatus 10. The communication link of various information of an information centre 1 and the record regenerative apparatus 10 is enabled using the transmission lines 3, such as a communication line. A transmission line 3 is good also as public line networks, such as an ISDN circuit (Integrated Service Digital Network), and may build the leased line network for this system etc. Moreover, especially the communication configuration [communication / CATV (Cable Television), / wireless] is not limited. Moreover, the satellite communication circuit using the parabolic antenna 5 installed in a communication satellite 4 or each home 2 etc. is constituted, and the information communication link with an information centre 1 and the record regenerative apparatus 10 may be made to be enabled.

[0016] Although the record regenerative apparatus 10 of this example which a general user uses is mentioned later in detail While equipping the interior with the mass data file storing section (for example, hard disk drive 15 of drawing 3) The drive function of package media, such as an optical disk, a magneto-optic disk, a magnetic disk, and semiconductor memory, It has the data input function from other devices, the data input function through a transmission line 3, etc. The audio data reproduced from the media which users, such as an optical disk, a magneto-optic disk, a magnetic disk, and semiconductor memory, purchased, The various data inputted from an image data, a video data, text data, other various data, other devices, or a transmission line are storable as a file, respectively.

[0017] And about the stored file (for example, music etc. is stored as one file per one music), it becomes possible for a user to reproduce arbitration etc. If the user who follows, for example, has much CDs

stores all the musical pieces of all CDs in the record regenerative apparatus 10 as one file, respectively, even if he does not select and load with CD etc. specially, he can perform playback of a desired musical piece etc.

[0018] An information centre 1 can offer the charge or various kinds of [free and] information to such a record regenerative apparatus 10. the information concerning the address (URL:Uniform Resource Locator) of image data, such as text data, such as a music name, an artist name, and words, a musical piece image, artist's image, and an image a jacket's, and an artist's Internet homepage, and copyright as information (additional information) relevant to files, such as a musical piece by which the information centre 1 is stored in the record regenerative apparatus 10, and the persons concerned -- the information on names (for example, a songwriter, a composer, a maker, etc.) etc. can be offered. For example, in the record regenerative apparatus 10, the information offered from these information centres is made to correspond with the file of music, and is stored, and various actuation, such as using for a display output, can be performed.

[0019] In addition, it is able for the record regenerative apparatus 10 to enable it for additional information to come to hand from an information centre 1 in this example, and acquisition of additional information is possible also from other than information centre 1. Namely, that the database with which additional information can be searched corresponding to an album, a musical piece, etc. which are stored in the record regenerative apparatus 10 should just exist, although later mentioned about the contents of this database, and retrieval actuation, by this example, as for the record regenerative apparatus 10, additional information is acquired from that database. Therefore, when an information centre 1 has a database as a system, the record regenerative apparatus 10 will give a retrieval trigger to an information centre 1, and will receive supply of the additional information as a retrieval result from an information centre 1 as mentioned above. On the other hand, if there is a database to a user with gestalten, such as CD-ROM, the record regenerative apparatus 10 can search additional information from the CD-ROM. If the database is installed on the hard disk of the record regenerative-apparatus 10 interior, of course, as for the record regenerative apparatus 10, additional information can be searched from the database. It is not necessary to perform the communication link with an information centre 1 about acquisition of additional information in these cases. That is, even if it does not connect with a system like drawing 1, the actuation (retrieval actuation of additional information) of this example of the record regenerative apparatus 10 later mentioned also as the so-called device of a stand-alone is attained.

[0020] In this example of a system, there are a record regenerative apparatus 10 and a connectable portable record regenerative apparatus 50 (henceforth pocket equipment) as equipment which a user uses. Although later mentioned in detail also about this pocket equipment 50, it has the data file storing section (for example, hard disk drive 54 of drawing 4 (or flash memory)) which can store files, such as audio data, in the interior. And when it connects with the record regenerative apparatus 10, the files (for example, musical piece etc.) stored in the record regenerative apparatus 10 can be copied or moved to the data file storing section in this pocket equipment 50. Of course, it is also possible to copy or move the file conversely stored in the data file storing section in pocket equipment 50 to the data file storing section in the record regenerative apparatus 10.

[0021] By making the file of arbitration move or copy to pocket equipment 50 among the files stored in the record regenerative apparatus 10, a user can use the file with pocket equipment 50. For example, in case pocket equipment 50 is used, it becomes possible to listen to those music for example, at a going-out place etc. by moving the file of the musical piece regarded as wanting to hear it on that day.

[0022] 2. The example of an appearance of the example record regenerative apparatus 10 of an appearance of a record regenerative apparatus and pocket equipment and pocket equipment 50 is shown in drawing 2. In addition, it is an example which is explained here to the last, and, otherwise, the appearance of each device, the topology of a user interface configuration (namely, configuration for actuation or a display), the record regenerative apparatus 10, and pocket equipment 50, etc. can consider various kinds of examples.

[0023] As shown in drawing 2, let the record regenerative apparatus 10 be the so-called radio cassette recorder type of device so that it may be suitable for use at a user's home. Of course, a component type

is sufficient. The key of the rotation push type called an actuation key, an actuation tongue, and a jog dial as various kinds of handlers Ka for a user to perform various actuation to this record regenerative apparatus 10 etc. is prepared in the device front panel etc. Moreover, as an output part to a user, the loudspeaker 35 which outputs playback voice etc., and the display 24 which carries out the display output of the various information are formed. A display 24 is formed with a liquid crystal panel etc. [0024] Moreover, in order to reproduce the optical disks (for example, Audio CD, CD-ROM, CD text, etc.) which a user owns with the record regenerative apparatus 10 or to perform data dubbing etc. to the hard disk of the interior mentioned later, optical disk insertion section 17a which inserts an optical disk is prepared. In order similarly to record / reproduce the magneto-optic disks (for example, Audio MD, an MD data, etc.) which a user owns with the record regenerative apparatus 10 or to perform data dubbing etc. to an internal hard disk, magneto-optic-disk insertion section 18a which inserts a magneto-optic disk is prepared.

[0025] Moreover, various kinds of terminals ta for making connection with other devices are prepared for the record regenerative apparatus 10. These various terminals ta are used for connection of a microphone and headphone, or let them be the Rhine connection terminal connectable with other audio-visual devices, a personal computer, etc., an optical digital connection terminal, an interface connector, etc.

[0026] Moreover, as a means of an actuation input against a user's record regenerative apparatus 10, a keyboard 90 and a remote commander 91 can be used in addition to the above-mentioned handler Ka. When connect through the connector for keyboards as a terminal ta, and it is made to use or the infrared transmitting section is carried in a keyboard 90, a keyboard 90 can output the actuation information from a keyboard 90 with infrared radio system, and can also be made to input it into the record regenerative apparatus 10 from a light sensing portion 21. A remote commander 91 outputs actuation information for example, by the infrared method. And the actuation information by the infrared signal is inputted into the record regenerative apparatus 10 from a light sensing portion 21. In addition, you may make it the output of the actuation information in the case of making a keyboard 90 into radio system and the output of the actuation information from a remote commander 91 use not infrared radiation but an electric wave.

[0027] Furthermore, the input pen 93 which forms an input means with a display 24 is formed. That is, while the image for actuation is displayed on a display 24 as the so-called GUI (Graphical User Interface), it consists of that the input pen 93 is applied to the image on the display 24 so that the actuation input according to the image may be performed as a touch pen input. Moreover, it enables it to read the bar code which a bar code scanner 92 is prepared, for example, is displayed on the packages (album jacket etc.) of CD as an input means.

[0028] Moreover, PCMCIA slot 39 is formed in the record regenerative apparatus 10, and the exchange of the data equipped with a PCMCIA card is enabled.

[0029] Let pocket equipment 50 be a small lightweight device so that it may be suitable to use it by a user carrying. The actuation key etc. is prepared in this pocket equipment 50 as various kinds of handlers Kb for a user to perform various actuation. Although not illustrated, of course, a jog dial etc. may be prepared as a handler Kb. Moreover, the loudspeaker 68 which outputs playback voice etc., and the display 57 which carries out the display output of the various information are formed in pocket equipment 50 as an output part to a user. A display 57 is formed with a liquid crystal panel etc.

[0030] Moreover, various kinds of terminals tb for making connection with other devices are prepared for pocket equipment 50. The terminal tb of these various kinds is made into the part used for connection of a microphone and headphone, or let them be the Rhine connection terminal connectable with other audio-visual devices, a personal computer, etc., an optical digital connection terminal, an interface connector, etc. For example, when a user carries pocket equipment 50 and listens to music etc., voice is reproduced from a loudspeaker 68, and also music etc. can be listened to using headphone 92 by connecting headphone 92 to the terminal for headphone of the terminals tb.

[0031] By connecting the record regenerative apparatus 10 and pocket equipment 50, various data communication (communication link of real file data, such as audio data, the control data for the

processing at the time of the communication link of real file data, etc.) is made possible between the record regenerative apparatus 10 and pocket equipment 50. By this example, the applied part MT which has a connector 27 should be formed in the record regenerative apparatus 10, and both devices shall be connected to it by loading this applied part MT with pocket equipment 50. If an applied part MT is loaded with pocket equipment 50, it will be in the condition that the connector 60 prepared in the lower part of pocket equipment 50 and the connector 27 in an applied part MT were connected, and data communication between both devices will be performed through these connectors 60 and 27. In addition, connection of the record regenerative apparatus 10 and pocket equipment 50 is good also as a wireless connection type which considered as the Rhine connection type which used the telecommunication cable, or used infrared radiation etc.

[0032] 3. Drawing 3 explains the internal configuration of a record regenerative apparatus, then the example of an internal configuration of the record regenerative apparatus 10. The handler of a push type or a rotation type is prepared in this record regenerative apparatus 10 as a panel control unit 20. It is equivalent to the various handlers Ka indicated to be handlers here to drawing 2. That is, they are the various handlers formed on a device case. When the panel control unit 20 is operated by the user, the actuation signal for performing various actuation of the record regenerative apparatus 10 is sent out, and the record regenerative apparatus 10 operates according to this actuation signal.

[0033] Moreover, although drawing 2 showed the input pen 93, in order to detect that the input with the input pen 93 was performed to the actuation key display of a display 24, the input detecting element 42 is formed. Moreover, the pen driver 41 which drives the input pen 93 is formed. As an input method with the input pen 93, an electrostatic-capacity detection mold can be considered, for example. That is, while preparing an electrode at the tip of the input pen 93 and driving by the pen driver 41, an electrode is arranged on the range which is equivalent to the screen of a display 24 as an input detecting element 42 in the shape of a matrix. Then, since the location where the pen driver 41 touched the screen of a display 24 can detect as an electrostatic-capacity change location with a matrix-like electrode, it can distinguish that the actuation input as an actuation image currently displayed on the location was performed. In addition, as other examples, a matrix-like switch electrode is arranged on two-layer as an input detecting element 42, and a mechanical configuration with which contact of a switch electrode is detected in the location pressed with the input pen 93 is also considered. In, in such a mechanical configuration, the pen driver 41 needs to be unnecessary, and the input pen 93 does not need to be the thing of dedication, either.

[0034] Moreover, the bar code scanner 92 shown in drawing 2 is driven by the scanner driver 40, and has bar code data incorporated.

[0035] Moreover, although a keyboard 90 and a remote commander 91 can be used as described above in order to make easy the input of the music name corresponding to the audio information recorded, for example, an artist name, etc., the input by the keyboard 90 is attained by connecting a keyboard 90 to the USB (universal serial bus) terminal ta6. That is, by a USB driver being supplied through the USB terminal ta6, the input signal (actuation signal) from a keyboard 90 can be incorporated inside the record regenerative apparatus 10. In addition, various kinds of terminals ta1-ta7 in drawing 3 are equivalent to one of the terminals ta shown in drawing 2, respectively.

[0036] Moreover, photo electric conversion of the actuation signal (and actuation signal in case a keyboard 90 performs an infrared output) by the infrared radiation from a remote commander 91 is carried out by the light sensing portion 21, and it enables it to be incorporated inside the record regenerative apparatus 10 by the infrared interface driver 22 being supplied. In addition, you may constitute so that a data transfer output may be performed to an external instrument from the record regenerative apparatus 10 through the infrared interface driver 22 or the USB driver 23.

[0037] RAM13, ROM12, and the flash memory 14 which are the configuration of the usual personal computer are prepared in this record regenerative apparatus 10, and motion control of the whole record regenerative apparatus 10 is performed by CPU11. Moreover, transfer of the file data during each block or control data is performed through a bus B1.

[0038] The control input signal inputted by the user with the above-mentioned panel control unit 20, the

input pen 93, the bar code scanner 92, the remote commander 91, the keyboard 90, etc. is transmitted to CPU11. And CPU11 will perform processing predetermined [according to actuation of a user]. For this reason, the program which controls actuation of the record regenerative apparatus 10 according to the input signal inputted into ROM12 by operating the above-mentioned panel control unit 20 grade is memorized. Moreover, a data area when performing a program, and a task field are temporarily secured to RAM13 and a flash memory 14. Or the programme loader is memorized by ROM12 and it is also possible for the program itself to be loaded to RAM13 or a flash memory 14 by the programme loader. [0039] While CD-ROM drive 17 is equipped with optical disks (for example, Audio CD, CD-ROM, CD text, etc.) from above-mentioned optical disk insertion section 17a, 1X or the information memorized more by the optical disk by optical pickup by the high speed, for example, 16X, and 32X is read to it. [0040] Moreover, while the MD drive 18 is equipped with an optical disk or magneto-optic disks (for example, Audio MD, an MD data, etc.) from above-mentioned magneto-optic-disk insertion section 18a, the information memorized by the disk by optical pickup is read. Or information is recordable to the disk with which the MD drive 18 was loaded.

[0041] In addition, although the example which formed CD-ROM drive 17 and the MD drive 18 is raised with this example, only this either may be prepared or the drive corresponding to the memory card of other media, for example, the magneto-optic disk called an MO disk and the optical disk of other methods, a magnetic disk, and a non-volatile etc. may be prepared as media information is remembered to be.

[0042] The hard disk drive (hard disk drive : call it Following HDD) 15 which performs informational record playback to a hard disk as a mass storing means inside the record regenerative apparatus 10 is formed. For example, the audio information read from CD-ROM drive 17 or the MD drive 18 is storable per file (one music is one file) in HDD15.

[0043] Moreover, the encoder 28 which performs compression encoding of ATRAC2 method (Adaptive Transform Acoustic Coding 2) to audio data, and the decoder 29 which performs decoding to compression of ATRAC2 method to audio data are formed. An encoder 28 and a decoder 29 perform encoding and decoding to the supplied audio data according to control of CPU11. Moreover, the buffer memory 16 for storing the audio data used as a processing object temporarily is formed. As for buffer memory 16, store/read-out of data are performed by control of CPU11.

[0044] When it stores in HDD15 the audio data read from the disk with CD-ROM drive 17, corresponding to control of CPU11, while the audio data read from the disk to buffer memory 16 are stored temporarily as pretreatment which memorizes audio data to HDD15, the audio data is supplied to an encoder 28 from buffer memory 16, and encoding of ATRAC2 method is performed. The data furthermore encoded with the encoder 28 will be again stored temporarily at buffer memory 16, and the audio information finally encoded by HDD15 will be accumulated.

[0045] In addition, although the OTIO data encoded by the encoder 28 by ATRAC2 method are made to be stored in HDD15 in this example, the data read, for example from CD-ROM drive 17 may be made to be stored in HDD15 with PCM (Pulse Code Modulation) data.

[0046] It consists of encoders 28 so that the data read from the media with which CD-ROM drive 17 is equipped are not only encoded, but the audio signal inputted from the Rhine input terminal ta2 to which devices, such as an audio signal inputted through the microphone terminal ta3 to which the microphone was connected to the amplifier 32, or other CD players, were connected may be inputted through A/D converter 31. The audio data inputted from these terminals ta3 and ta2 are also encoded by the encoder 28. Furthermore, the data inputted from the external instruments (for example, CD player etc.) connected to the optical digital terminal ta4 are IEC958 (International Electrotechnical Commission 958). It is constituted so that it may be inputted into an encoder 28 through an encoder 30, and the data inputted by the optical digital method in this way can also be encoded with an encoder 28.

[0047] And after encoding these data inputted from the external instrument like with an encoder 28, HDD15 enables it to store the encoded data per file.

[0048] In addition, what is necessary is just the encoding algorithm by which is not limited to ATRAC2 (trademark) as an encoding algorithm of an encoder 28, and an information compression is carried out.

For example, you may be ATRAC3 (trademark), ATRAC (trademark), MPEG (moving picture coding experts group), PASC (precision adaptive sub-band coding), TwinVQ (Transform-Domain Weighted Interleave Vector Quantization) (trademark) and RealAudio (trademark), LiquidAudio (trademark), etc. [0049] Moreover, the record regenerative apparatus 10 is equipped with the modem 19 which is an interface connectable with the Internet which is the external network connected to the communication link terminal ta5 as a transmission line 3, a tele network, a cable TV, a wireless network, ISDN, etc. And according to control by CPU11, the request signal which asks the server of a remote place for a certain service through a modem 19 or the media information with which CD-ROM drive 17 is equipped, user ID, User Information, user accounting information, etc. are sent out.

[0050] In the server (server which can communicate in transmission line 3) side of an external network, retrieval of the collating processing by user ID, accounting and the music additional information from disk information, for example, the title of music, an artist name, a composer, a songwriter, words, a jacket image, etc. is performed, and actuation which answers the record regenerative-apparatus 10 side in the predetermined additional information which the user requested is attained. Although here showed the example as which the server of an external network answers the additional related information to music, you may constitute so that the music information which a user requests may download from an external network directly. Moreover, it may constitute so that music information may be answered corresponding to media information, and you may constitute so that the bonus truck of predetermined media may be acquired by distribution.

[0051] According to control by CPU11, the audio information accumulated in HDD15 is decoded by the decoder 29, and a playback output can be carried out by the loudspeaker 35 through D/A converter 33 and amplifier 34. Or by connecting headphone to a phones jack ta1, a playback output can be carried out from headphone. Although the decoder 29 shall decode ATRAC2 method here, what is necessary is just a decoding algorithm corresponding to the encoding algorithm of an encoder 28. Moreover, encoding and decoding may not have hardware but may be software processing by CPU11 here.

[0052] Furthermore, although the display 24 is formed as an interface for a user to manage and control files, such as audio data stored in HDD15, as shown also in drawing 2, the display drive of the display 24 is carried out by the display driver 25. In a display 24, a necessary alphabetic character, a notation, the icon for actuation, etc. are displayed based on control of CPU11. Moreover, the folder corresponding to an audio file etc. or a jacket image is displayed on a display 24, and actuation by pointing device like the above-mentioned input pen 93 is enabled. For example, actuation by which the audio file which is on a display and the user directed is reproduced is attained. In addition, the file on which audio data, such as a musical piece, were recorded is called explanation top audio file. Of course, a touch actuation method, like the click actuation by the mouse and a user can touch with a finger is also considered.

[0053] Moreover, control of elimination of the audio file chosen by the user actuation to the display by the display 24, the copy to an external instrument (for example, pocket equipment 50), migration, etc., etc. is also possible. Or a display 24 is TOC (table of contents) of the media with which CD-ROM drive 17 is equipped. html as related information searched from the WWW (world wide web) site on the Internet based on information (hyper text markup laguage) It is constituted so that graphical display of the document may be carried out, and it is usable also as a further usual Internet browser.

[0054] Moreover, it consists of record regenerative apparatus 10 so that audio information may be incorporated through the IEEE1394 interface 37 and the IEEE1394 driver 36 from IRD (Integrated Recciver/Decoder) for the various devices connected to the terminal ta7, or a system, for example, satellite broadcasting services, MD player, a DVD (Digital Video Disc) player, DV (Digital Video) player, etc. He is PCMCIA (Personal Computer Memory Card International Association) as further addition function. A slot 39 is established through the PCMCIA driver 38, and it can equip with a PCMCIA card. It becomes easy through a PCMCIA card to extend [of various peripheral devices, such as external storage, other media drives, a modem, a terminal adopter, and a capture board,] the record regenerative apparatus 10.

[0055] As drawing 2 furthermore explained, the connector 27 at the time of connecting with pocket equipment 50 is formed in the record regenerative apparatus 10. Various kinds of data communication of

the record regenerative apparatus 10 becomes possible the pocket equipment 50 side through the radical of control of CPU11, and the interface driver 26 by connecting a connector 27 and the connector 60 by the side of pocket equipment 50. For example, the audio file accumulated in HDD15 can be transmitted. [0056] 4. The internal configuration of pocket equipment, then the example of an internal configuration of pocket equipment 50 are shown in drawing 4. Although it is that a connector 27 and a connector 60 are connected and will connect electrically, the interface driver 26 of the record regenerative apparatus 10 and the interface driver 59 of pocket equipment 50 are connected in this condition, and data communication between both devices of the record regenerative apparatus 10 and pocket equipment 50 is made possible.

[0057] The key of a push type and a rotation type etc. is prepared in pocket equipment 50 as a panel control unit 56. That is, various kinds of handlers Kb shown in drawing 2 are equivalent to the panel control unit 56. By operating the handler Kb as a panel control unit 56, the actuation signal for directing actuation of pocket equipment 50 is sent out to control bus B-2, and pocket equipment 50 performs actuation according to this actuation signal.

[0058] Moreover, also in pocket equipment 50, RAM53 and ROM52 which are the configuration of the usual personal computer are prepared like the record regenerative apparatus 10, and actuation of the whole pocket equipment 50 is controlled by CPU51. Moreover, transfer of the file data during each block in pocket equipment 50 or control data is performed through bus B-2.

[0059] The program which pocket equipment 50 should perform according to the actuation signal inputted into ROM52 when the panel control unit 56 is operated by the user is memorized, and a data area in case an above-mentioned program is performed, and a task field are temporarily secured to RAM53. In addition, a flash memory may be carried like the record regenerative apparatus 10, and a bus arrangement is not limited.

[0060] The hard disk drive (HDD) 54 which performs informational record playback to a hard disk as a storing means inside this pocket equipment 50 is formed. For example, the audio information transmitted from the record regenerative apparatus 10 can store per file (one music is one file) in HDD54. In addition, it may replace with HDD, for example, a flash memory etc. may be used as a storing means.

[0061] Moreover, the encoder 61 which encodes ATRAC2 method to audio data, and the decoder 62 which decodes ATRAC2 method to audio data are formed like the record regenerative apparatus 10. An encoder 61 and a decoder 62 perform encoding and decoding to the supplied audio data according to control of CPU51. Moreover, the buffer memory 55 for storing temporarily the audio data used as the processing object of pocket equipment 50 is formed. As for buffer memory 55, store/read-out of data are performed by control of CPU51.

[0062] For example, when the audio data which are not encoded by ATRAC2 method are supplied from the record regenerative apparatus 10 through the interface driver 59 and pocket equipment 50 stores it in HDD54, while audio data are stored temporarily at buffer memory 55 as pretreatment which memorizes audio data to HDD54, the audio data is supplied to an encoder 61 from buffer memory 55, and encoding of ATRAC2 method is performed. Furthermore, the encoded data will be again stored temporarily at buffer memory 55, and the audio information finally encoded by HDD54 will be accumulated.

[0063] In addition, in this example, it is supposed that the audio file encoded by ATRAC2 method is stored in HDD15 in the record regenerative apparatus 10. Therefore, when the audio file stored in HDD15 is supplied through the interface driver 59 and stores it in HDD54, processing with an encoder 61 is unnecessary (namely, when performing a copy or migration of music etc. of a data file). However, the audio data (PCM data by which compression processing is not carried out) read from the media with which the CD-ROM drive 17 grade of the record regenerative apparatus 10 is equipped may be made to be inputted through the direct interface driver 59, and encoding by the encoder 61 will be performed as mentioned above as processing for recording audio data at HDD54 in such a case.

[0064] Moreover, although the OTIO data encoded by the encoder 61 by ATRAC2 method are made to be stored in HDD54 in this example, the data by which compression processing is not carried out, for example may be made to be stored in HDD54 as it is.

[0065] As a part which supplies audio data to an encoder 61 for compression processing, the microphone terminal tb3, the Rhine input terminal tb2, the optical digital terminal tb4, etc. are formed in addition to the above-mentioned interface driver 59. In addition, various kinds of terminals tb1-tb4 in drawing 4 are equivalent to one of the terminals tb shown in drawing 2, respectively.

[0066] It consists of encoders 61 so that the audio signal inputted from the Rhine input terminal tb2 to which devices, such as an audio signal inputted through the microphone terminal tb3 to which the microphone was connected to the amplifier 65, or other CD players, were connected may be inputted through A/D converter 64. The audio data inputted from these terminals tb3 and tb2 can also be encoded by the encoder 28. Furthermore, it is constituted so that the data inputted from the external instruments (for example, CD player etc.) connected to the optical digital terminal tb4 may be inputted into an encoder 61 through IEC958 encoder 63, and the data inputted by the optical digital method like this IEC958 can also be encoded with an encoder 61.

[0067] And after encoding the data inputted from the external instrument as mentioned above with an encoder 61, HDD54 enables it to store the encoded data per file.

[0068] In addition, as an encoding algorithm of an encoder 61, you may be not only ATRAC2 but other encoding algorithms 3 by which an information compression is carried out, for example, ATRAC, ATRAC, MPEG, PASC, TwinVQ and RealAudio, LiquidAudio, etc.

[0069] According to control of CPU51, the audio information accumulated in HDD54 is decoded by the decoder 62, and a playback output can be carried out by the loudspeaker 68 through D/A converter 66 and amplifier 67. Or by connecting headphone to a phones jack tb1, a playback output can be carried out from headphone. Although the decoder 62 shall decode ATRAC2 method here, what is necessary is just a decoding algorithm corresponding to the encoding algorithm of an encoder 61. Moreover, encoding and decoding may not have hardware but may be software processing by CPU51.

[0070] Furthermore, although the display 57 is formed as an interface for a user to manage and control files, such as audio data stored in HDD54, as shown also in drawing 2, the display drive of the display 57 is carried out by the display driver 58. In a display 57, a necessary alphabetic character, a notation, an icon, etc. are displayed based on control of CPU51. Moreover, the folder corresponding to an audio file etc. or a jacket image is displayed on a display 57, and when a display 57 top is operated by that it can touch with the finger of a mouse, a pen, and a user etc., actuation corresponding to the panel control unit 20 may be made to be enabled. For example, actuation by which the audio file which is on a display and the user directed is read from HDD54, and is reproduced from loudspeaker 35 grade is attained.

Moreover, by the user actuation to the display by the display 57, elimination of the selected audio file on HDD54, the copy to an external instrument (for example, record regenerative apparatus 10), migration, etc. are controllable.

[0071] In addition, as drawing 2 explained, although data transmission and reception with the record regenerative apparatus 10 are enabled by equipping the applied part MT of the record regenerative apparatus 10, the interface of a non-contact mold is sufficient as pocket equipment 50, for example, even if IrDA etc. is used for it, it is not cared about. Moreover, although not illustrated, the record regenerative apparatus 10 is equipped with the charging current feed zone, and the charging current is supplied to the pocket equipment 50 with which it is equipped, and it may be constituted so that charge may be performed to the rechargeable battery used as the power source of pocket equipment 50 of operation.

[0072] 5. file migration processing -- with the record regenerative apparatus 10 constituted as mentioned above and pocket equipment 50, the file (audio data, such as a musical piece) stored, respectively can be copied or (copy) moved mutually (MUBU). That is, the file stored in HDD15 of the record regenerative apparatus 10 can be copied moved to HDD54 of pocket equipment 50, or the file conversely stored in HDD54 of pocket equipment 50 can be copied or moved to HDD15 of the record regenerative apparatus 10.

[0073] In addition, the processing to which the processing made into the condition, i.e., a condition refreshable with both the record regenerative apparatus 10 and pocket equipment 50, that a file coexists in HDD of a copied material and HDD of a copy place when a copy is copied is said, and migration

makes it an unreproducible condition from HDD of a copied material on the other hand is said here. In this example, it considers as what can move mutually between HDD15 and HDD54 about an audio file. [0074] Drawing 5 explains the processing for which the file specified among the files in HDD15 of the record regenerative apparatus 10 is moved to HDD54 of pocket equipment 50. This serves as processing performed by CPU11.

[0075] As step F101, CPU11 detects whether the applied part MT of the record regenerative apparatus 10 is equipped with pocket equipment 50. What is necessary is to detect a loading condition by the mechanical switch mechanism as a detection means in this case, or just to detect connection by transmission and reception of the signal through connectors 27 and 60 etc. In addition, connection detection will be repeated, if pocket equipment 50 is not connected to the record regenerative apparatus 10 and it will be distinguished.

[0076] If pocket equipment 50 is connected to the record regenerative apparatus 10 and it will be distinguished, it will distinguish [of music 50, i.e., the pocket equipment of an audio file,] whether the demand of migration is directed by the user as an activation demand by the program of operation or -- by step F102. For example, among the folders which specifically show the audio file displayed on a display 24, the audio file chosen by the predetermined pointing device is that the further directions of a user called migration to pocket equipment 50 are performed, and migration processing to pocket equipment 50 will be performed by the user. In addition, if there is no migration demand by the user in step F102 and it will be distinguished, it will return to step F101.

[0077] In step F102, if there is a migration demand of music and it will be distinguished, the capacity of the audio file continuously specified at step F103 will be detected. Next, step F104 detects the availability in HDD54 by the side of pocket equipment 50, and it compares with the capacity of the audio file as which migration to pocket equipment 50 is demanded. Although the availability of HDD54 is distinguished by the communication link with CPU51, the configuration which can carry out direct access of CPU11, for example to HDD54 can also be taken. In that case, it is enabling activation of the motion control and file management of HDD54 at the CPU11 side, and it becomes possible to distinguish the availability of direct HDD54 by the CPU11 side etc.

[0078] When the availability of HDD54 is lacking to the audio file which should move and it is distinguished from migration impossible, in step F105, processing which deletes the audio file stored in HDD54 is performed. It is good also as what CPU11 may make also perform this processing through CPU51, and can carry out immediate execution of CPU11. As the deletion approach (sorting of the file to delete) of the audio file from HDD54, it enables it to eliminate in order what has a few count of playback by the user, or the approach of eliminating sequentially from the old thing of the date of the recorded stage can be considered, for example. Moreover, since a file important for a user may be eliminated by being eliminated that there is no permission of a user in the case of such automatic elimination, you may make it obtain an user validation, as an alarm display is made a display 24 and a display 57.

[0079] When it is judged at step F104 that it is movable, and when it is judged that migration is impossible and step F105 is processed, it progresses to step F106 and transfer processing of a file is performed. That is, a predetermined audio file is transmitted and recorded on HDD54 through the interface drivers 26 and 59 from HDD15.

[0080] Since it is furthermore migration processing to HDD54 from HDD15, a playback prohibition flag is set up about the audio file used as the candidate for migration memorized by HDD15, and it is made to treat as a file unreproducible although recorded in HDD15 in step F107. In addition, you may make it actually eliminate the audio file which became a candidate for migration in step F107 from HDD15. If processing of step F107 is completed, return and the same processing will be repeated by step F101.

[0081] Since a predetermined audio file is virtually moved to pocket equipment 50 from the record regenerative apparatus 10 by a playback prohibition flag being set up at step F107, an audio file is managed as always existed only in one, and also has effectiveness by which an illegal copy is prevented. Moreover, the processing to which the migration processing can be completed in an instant, for example, the audio file as two or more musical pieces is moved can be completed very much in a short time for

that it is [HDD /54 / HDD15 to] both data migration between rapid access media, and encoding/decoding, such as ATRAC2, being unnecessary etc. Therefore, since migration processing of this example does not apply a time burden to a user, a user can make it easy to choose music according to the temper and situation of the day, and to also make it move to pocket equipment 50 every day.

[0082] By processing of the above drawing 5 being performed, file migration to HDD54 from HDD15 is realized. And a user chooses music to listen to, and makes it move to the pocket equipment 50 side by such file migration processing among the musical pieces (namely, file stored in HDD15) which he owns, and it becomes usable [of enjoying playback at a going-out place etc.].

[0083] In addition, when copying, it is good if processing of step F107 is not performed. Moreover, when performing file migration (or copy) from HDD54 to HDD15, the same processing as an outline should just be performed by CPU51, and it is also possible for the CPU11 side to become main also in that case, and to perform processing.

[0084] 6. The example of the storing gestalt of the file in HDD15 in the record regenerative apparatus 10 is shown in file storing gestalt drawing 6 of a record regenerative apparatus. For example, a user loads CD-ROM drive 17 with CD which he owns, and makes it record on HDD15 by considering each musical piece recorded as a file, respectively (namely, copy). For example, supposing storing is performed in media units, such as the CD, a management file is formed in media units, such as dubbed CD, and each musical piece etc. is stored as one audio file, respectively.

[0085] The condition that CD of n sheets was dubbed by HDD15 is shown in drawing 6 , and the management file AL (AL1-AL (n)) is formed in it corresponding to each CD. And the musical piece recorded on each CD is stored as an audio file in the condition of having corresponded to the management file AL, respectively. as the file by which each file shown by one line was dubbed from one CD in drawing 6 -- being shown -- *** -- for example, the dubbing data (each musical piece) from a certain CD -- the management file AL1 -- corresponding -- audio file AL1- M1, AL1-M2, and AL1-M3 -- it is stored as ... moreover, the dubbing data (each musical piece) from other CDs -- the management file AL2 -- corresponding -- audio file AL2- M1, AL2-M2, and AL2-M3 -- it is stored as ... That is, these are data, such as actual music. Thus, when dubbing from one CD is performed, the audio file for the dubbed number of music is recorded on HDD15 with one management file.

[0086] Moreover, although a user can input data, or the additional information searched from the database can be acquired on the occasion of dubbing of a certain CD etc. so that it may mention later, those information is stored as a related information file. For example, corresponding to the management file AL1, related information file AL1ad is recorded on HDD15. the information concerning the address (URL) of image data text data, such as a music name, an artist name, and words, a musical piece image, or an artist's, such as an image and a jacket image, and an artist's Internet homepage, and copyright as mentioned above with the data stored as related information file AL(*) ad, and the persons concerned -- it is the information on a name etc. (for example, a songwriter, a composer, a maker, etc.).

[0087] A management file has various kinds of management information about 1 corresponding, or two or more corresponding each audio file and related information files, and is used in the cases, such as playback of each audio file or a related information file, migration, a copy, and edit. for example, the file group by which dubbing storing of the management file AL1 was carried out from media, such as a certain CD, -- being related -- the management information of the whole, and each audio file AL1- M1, AL1-M2, and AL1-M3 -- the management information about ... and the management information about related information file AL1ad are recorded further.

[0088] Drawing 7 shows the example of data of the management information recorded on a management file. For example, as album information which turns into management information of the whole file group by which dubbing storing was carried out from media, such as CD, the time information to which file classification, the number of files, an album title, data size, and dubbing were carried out, persons-concerned names (an album maker, a lyrics composer, a player, etc.), copyright information, Album ID, and various kinds of other management information are recorded. Album ID is identification code given to the proper in the album unit (goods title unit) as media, such as CD. In this example, the bar code data mentioned later are equivalent to this.

[0089] File information (#1) - file information (#m) are recorded on each audio file corresponding to a management file as management information corresponding to an individual exception. Moreover, as this file information The address pointer which shows the record location on HDD15 of the file which file-divides [of a corresponding file] into classes and corresponds, The time information to which the data size of a file, titles (music name etc.), and dubbing were carried out, persons-concerned names (a lyrics composer, player, etc.), copyright information, a playback prohibition flag, and various kinds of other management information are recorded. A playback prohibition flag is a playback prohibition flag explained by migration processing of above-mentioned drawing 5.

[0090] On a management file, related file information is recorded as management information which manages a corresponding related-information file, and, furthermore, the time information to which the address pointer which shows the record location on HDD15 of the file classification of a corresponding related-information file, or the number of files and a corresponding related-information file, data size of a related-information file, and record were carried out, a persons-concerned name, copyright information, and various kinds of other management information are recorded as this related file information on it.

[0091] The record regenerative apparatus 10 becomes possible [various processings, such as playback of a specific musical piece, migration, a copy, and edit, being attained, and also outputting the image and text as related information to compensate for actuation of playback of music etc.] by such management information being recorded on a management file, for example.

[0092] In addition, the contents of the management information raised to drawing 7 are examples to the last, and the file storing gestalt of drawing 6 is also an example. The suitable file storing gestalt for the various processings of an audio file which serve as live data stored in fact, and a management gestalt should just be taken. moreover, although audio files, such as a musical piece, are mentioned as an example as a file of the gestalt of operation, it explains and it goes by this example, naturally storing it as a file independent as a related information file that is,, using as a real file the control signal which controls the program as a video data, still picture data, text data, and game software and a mechanism is also considered.

[0093] 7. Explain especially the actuation for acquiring the actuation at the time of the record regenerative apparatus 10 storing an audio file in HDD15, and CD of a dubbing agency or the additional information corresponding to each musical piece in that case that it continues at the time of CD-HDD dubbing of operation example 1, and turns into characteristic actuation of this example. In addition, although the dubbing actuation to HDD15 from optical disks, such as CD marketed, is mentioned as an example and an explanation top explains it, it can apply the following examples of operation about the actuation which performs dubbing from various package media, such as dubbing actuation to HDD15 from a magneto-optic disk or semiconductor memory, such as MD, to HDD15.

[0094] A user can reproduce the audio file stored in HDD15 of the record regenerative apparatus 10, or can make it move to pocket equipment 50, as mentioned above. That is, by storing the audio file dubbed from CD which he owns, choose a musical piece to listen to on that day out of the musical piece of a large number to own etc. as HDD15 of the record regenerative apparatus 10, and it is reproduced, or it can be made to be able to move to pocket equipment 50, and can be made to reproduce at a going-out place. Furthermore, since a management file and a related information file correspond and are memorized like drawing 6 about the audio file stored in HDD15, the record regenerative apparatus 10 can show a user an album name, a music name, a related photograph, a related image, etc., and can realize high actuation of added value.

[0095] However, though natural for that, while the user dubs the data of CD on hand to HDD15 beforehand, a management file and related information file including the additional information according to the contents, such as that musical piece, must be memorized corresponding to the musical piece etc. Especially, the data which there are an album title, a persons-concerned name, copyright information, a music name of each music, a persons-concerned name, copyright information, etc., and form a management information file with the audio data from CD among the various data which constitute the management file of drawing 7 as additional information which must be inputted as data

recorded on HDD15 with a certain means, the persons-concerned name about a management information file, copyright information, etc. are equivalent to this. That is, about such information which corresponds to a proper like for every goods title as CD which is package media, the record regenerative apparatus 10 must receive by a certain technique.

[0096] So, by this example, a database like drawing 8 as the source with which the record regenerative apparatus 10 receives such additional information is considered. And this database shall be made to correspond to the bar code number currently displayed on the proper for every CD title as goods, and shall store various kinds of additional information. That is, as shown in a part of the jacket at drawing 9, the bar code BC is displayed on CD marketed, for example. Usually, this bar code BC serves as a gestalt it is written together that the bar code number expressed with the bar code pattern which can be read with a bar code scanner, and its bar code pattern is.

[0097] Since this bar code number is made into the number of a proper for every goods title of CD, the same number does not exist in a different goods title, or a number which is different in the same goods title does not exist. Therefore, a database holds a bar code number as a number of a proper in each goods title of CD like drawing 8. It is made to correspond to each of that bar code number. Album information (persons-concerned names, such as an album title and an artist name etc.), By storing truck information (a music name, a persons-concerned name, etc. of each musical piece truck #1-#n which are recorded on the album), and the related information (a jacket image, URL, etc.) further corresponding to the album. The database which classified / stored the additional information of a proper surely can be realized in each goods title. And if a bar code number is used as a retrieval trigger of a database, corresponding additional information can search correctly for every CD as each goods title.

[0098] Such a database should just be installed in HDD15. Or a user side may be provided with a database with gestalten, such as CD-ROM and MD-DATA. If it does in this way, the record regenerative apparatus 10 can search the additional information corresponding to the audio file which is the need and which searched the database from bar code numbers, such as CD, by the way, and was dubbed from CD etc. to HDD15. Moreover, if it considers connecting with an information centre 1 as the record regenerative apparatus 10 showed drawing 1, a database will be managed by the information centre 1 side, and it will also be considered by the record regenerative apparatus 10 transmitting the bar code number of CD to search that the additional information as a retrieval result is transmitted to the record regenerative apparatus 10 from an information centre 1.

[0099] In addition, the following explanation of operation is given as that with which the above-mentioned database is installed in HDD15, or the user is provided with the gestalt of CD-ROM.

[0100] First, in case the record regenerative apparatus 10 performs dubbing from CD to HDD15, it is the 1st example of operation at the dubbing termination time, it searches a database according to a bar code input, and considers it as the actuation which acquires additional information. Processing of CPU11 for this is shown in drawing 10.

[0101] Dubbing actuation detection processing [in / in the period without actuation of the dubbing activation by the user / step F201] is repeated. Supposing it loads CD-ROM drive 17 with CD with a user and operates dubbing activation, the dubbing processing which stores in HDD15 the music data reproduced from CD in the processing path which processing of CPU11 progressed to F202 from step F201 of drawing 10, and was mentioned above as an audio file is made to start. And it stands by that dubbing of audio data (data of all songs recorded on CD) is completed at step F203.

[0102] If dubbing of audio data is completed, processing will be advanced to step F204 and the management file will be generated with the audio file first formed on HDD15. That is, a management file including the physical management data as each audio file (each music) dubbed from one CD, for example, data size, file classification, an address pointer, time information, etc. like drawing 7 is set up, and it considers as the condition in which minimum management and playback control of each audio file are possible. Of course, at this time, since the additional information over the audio file group (CD album) or each audio file (each music) which were dubbed mentioned above is not acquired, the data (an album title, a music name, persons-concerned name, etc.) which are equivalent to the additional information corresponding to CD among management files like drawing 7 are not contained.

[0103] Then, CPU11 performs processing for acquiring the additional information made to correspond to the dubbed audio file group from step F205 continuously. First, at step F205, CPU11 makes a display 24 perform a display like drawing 11, and requires a bar code input of a user. That is, it is the input of the bar code number which CD jacket of a dubbing agency is shown like drawing 9.

[0104] As a user's bar code input approach, if the bar code scanner 92 is formed, it can be used.

[0105] A bar code scanner 92 is 2 type ***. The 1st type is a type which recognizes the bar code pattern of a picture signal inputted from image sensors, such as CCD. User actuation can consider actuation which holds up the bar code part of the jacket of CD album to CCD in which it is prepared by the record regenerative apparatus 10. Or CD album jacket installation section is prepared in the record regenerative apparatus 10, and actuation whose user puts the jacket of CD album on the jacket installation section is also included in user actuation. When the jacket installation section is prepared in the record regenerative apparatus 10, the record regenerative apparatus 10 is constituted so that image sensors, such as CCD, may be formed in the location which counters the bar code part of the jacket laid in the jacket installation section. That is, if a user lays a jacket in the jacket installation section, the record regenerative apparatus 10 is constituted so that the bar code of the jacket automatically laid from CCD may be read.

[0106] The 2nd type is a laser scan type thing, and is a type with which laser is irradiated in two or more scanning directions to a bar code pattern, it is determined in the one scanning direction according to the reflected wave from a bar code pattern, and a bar code is recognized. User actuation can consider actuation which brings a bar code scanner 92 close to the bar code part of the jacket of CD album. Or a bar code scanner 92 may be fixed, and a bar code may be scanned when a user holds up the bar code part of a jacket to a bar code scanner 92.

[0107] Moreover, not only the existence or nonexistence of a bar code scanner 92 but a user can also input a bar code number numerically with the input pen 93 by displaying the actuation image as a ten key (numerical keypad) like drawing 11. That is, a user inputs the figure shown in the lower part of the bar code pattern of CD jacket. Such [, of course] a figure input can also use a keyboard 90 and a remote commander 91. Moreover, it may be used as long as the ten key is formed in the panel control unit 20.

[0108] Thus, a user will input a bar code number to a display like drawing 11 as the bar code input using a bar code scanner 92, or a figure input. For this reason, CPU11 displays that bar code number on a display 24 like drawing 12 while incorporating the bar code number which the scanner input was carried out and was decoded at step F210, if an input is stood by as steps F207 and F208 and the input by the bar code scanner 92 is detected. Moreover, if the figure input by the user is performed as a figure input, while incorporating the figure inputted at step F209, it displays on a display 24 like [it is the same and] drawing 12.

[0109] If a user checks a display like drawing 12 and it checks that the bar code number has been incorporated errorless by the bar code scanner 92, or if it checks that it is correct as a figure input, retrieval actuation will be performed, in order to make an input decide and to direct retrieval. For example, CPU11 displays a retrieval actuation image like drawing 12, and can be made to perform actuation in which a user directs retrieval with the input pen 93. In addition, when an input error or the input mistake of a number is discovered, bar code alter operation will be performed again and the numeric value incorporated and displayed by step F209 or F210 in that case is updated.

[0110] If the retrieval actuation by the user is detected in step F206, processing will be advanced to step F211 and the above-mentioned database will be searched by making into a retrieval trigger the bar code number by which the input was decided. In addition, when the database is installed in HDD15, it is unnecessary, but retrieval will be started, when the database is not installed, the display which asks for what CD-ROM drive 17 should be loaded with CD-ROM by which the database was recorded on the user for is performed to a display 24 and loading is performed to it after that at this time. Moreover, when an information centre 1 has a database, an information centre 1 is asked for retrieval from the record regenerative apparatus 10 by communication link, and it becomes the processing which receives the retrieval result from an information centre 1.

[0111] As mentioned above, since a database treats a bar code number as identification information of

the goods title of CD and stores the additional information corresponding to each bar code number, it can read the additional information corresponding to CD of a dubbing agency by searching by the inputted bar code number.

[0112] And if retrieval of additional information is completed, a retrieval result will be shown to a user at step F212. For example, all that were obtained as additional information or some data are displayed like drawing 13, it is correct or a user is asked for a check. For this reason, O.K. actuation image and a cancellation actuation image are also displayed on coincidence, and a user can be made to do the input of O.K. or NG so that it may illustrate.

[0113] In addition, if the bar code inputted into the database by storing the additional information corresponding to the goods title of CD by 1:1 on the basis of a bar code is right, the situation where CD which the detected additional information dubbed this time is not supported will not be generated mostly. However, since the bar code of CD jacket whose user is not CD dubbed by the misapprehension etc. this time can be inputted, a retrieval result is displayed like drawing 13 and it becomes suitable to make a user check.

[0114] When a user discovers a mistake and performs cancellation actuation to such a retrieval result display, in order to redo the bar code input and retrieval by the user, it returns from step F213 to F205. In addition, error processing (that is, it is made not to store additional information in HDD15) may be performed, without redoing.

[0115] When the information which should be stored as related-information files, such as image data, in the searched additional information while updating a management file so that the additional information which progressed to F214 from step F213, and was searched from the database may be added as data in a management file when a user performs O.K. actuation to a retrieval result display is included, the data is carried out as a related-information file, and it stores to HDD15. Corresponding to the related information file created in this case, of course, related file information is added on a management file. Moreover, what is necessary is just to record the value of a bar code number as an album ID shown in drawing 7.

[0116] It will be in the condition that are managed by the management file after the audio file group dubbed from one CD adds additional information by this processing, as drawing 6 and drawing 7 explained, and the related information file as additional information is formed depending on the case. And this ends a series of dubbing processings.

[0117] The additional information corresponded to CD of a dubbing agency surely by additional information being searched as processing which dubs the data of CD to HDD15 based on a bar code as mentioned above, and it being related with an audio file, and being stored in HDD15. For example, compared with the case where TOC information is made into the retrieval trigger of a database, the dependability of a retrieval result improves remarkably. And thereby, a user can be made to display the additional information stored as the inside of a management file, or a related information file at the time of playback of an audio file etc., and the service function of equipment and its informational dependability shown are raised at it.

[0118] Moreover, a database is that install in HDD15 or a user holds as a CD-ROM, and actuation of this example becomes possible also in the record regenerative apparatus 10 (the so-called device of a stand-alone) with which communication system with an information centre 1 is not built. In addition, since a database needs to store additional information corresponding to much CD currently sold in the commercial scene, although it becomes what has the comparatively big data size as a database, additional information can fully cover only text data, such as an album name and a music name, then by the capacity as a CD-ROM, for example. However, when it includes image data, such as an album jacket, as additional information, as install data of CD-ROM or HDD15, data size may be too large. In such a case, although preparing other mass storage media (for example, exterior HDD etc.) as a database is also considered, if it takes mitigating a user's device burden into consideration, it will become suitable that an information centre 1 prepares a database.

[0119] Moreover, although a database is [the renewal of an addition of data] also needed corresponding to the situation that CD is released one after another as a newly released piece of music for this reason,

the things (addition of newly-released-piece-of-music data etc.) for which a database is periodically upgraded by the technique of providing a user side with the database by which renewal of an addition was serially carried out by CD-ROM etc., and installing the database in the CD-ROM itself or its CD-ROM in the record regenerative apparatus 10 are desirable. Moreover, the record regenerative apparatus 10 may enable it to download the database updated serially from a predetermined server through a transmission line 3. On the other hand, when managing a database in an information centre 1, preparing the database management organization which corresponded to newly-released-piece-of-music sale promptly can also update a database every day.

[0120] By the way, although the bar code number is used as identification information of CD title in this example, it can respond to CD released in the past by using the bar code which has already spread in this way, and there is an advantage that the above-mentioned database is also easily generable, using the database of bar code systems, such as POS (Point of Sales). Moreover, if it is a bar code, while a user can do an input very simply with a bar code scanner 92, it becomes a suitable thing for a user in that a figure input can be carried out even if there is no bar code scanner.

[0121] Moreover, if the bar code number is recorded on the management file as an album ID as mentioned above, the bar code number can also be used for various services to the commercial-scene research and user by the information centre 1. For example, if it enables it to receive the album ID of the data with which an information centre 1 communicates to the record regenerative apparatus 30, and is stored in HDD15 (bar code number) It can distinguish CD which the user purchased, and an information centre 1 chooses a user's favorite genre and an artist's information by this, and it can provide for the user or it can use as the data as the so-called commercial-scene research the album ID which the user purchased.

[0122] 8. Describe the 2nd example of operation as the example 2 of operation at the time of CD-HDD dubbing, next actuation at the time of CD-HDD dubbing realizable [with the above-mentioned record regenerative apparatus 10] similarly. In case the record regenerative apparatus 10 performs dubbing from CD to HDD15, this 2nd example of operation searches a database during dubbing activation of audio data according to a bar code input, and considers it as the actuation which acquires additional information. Processing of CPU11 for this is shown in drawing 14.

[0123] Dubbing actuation detection processing [in / in the period without actuation of the dubbing activation by the user / step F301] is repeated. Supposing it loads CD-ROM drive 17 with CD with a user and operates dubbing activation, processing of CPU11 progresses to F302 from step F301 of drawing 14, and the dubbing processing which stores in HDD15 the music data reproduced from CD like the above-mentioned example as an audio file is made to start.

[0124] Thus, when dubbing processing is started, CPU11 performs processing for acquiring the additional information made to correspond to the audio file group under dubbing from step F303. Although detailed explanation is omitted since the processing to these steps F303-F311 is the same as processing of steps F205-F213 of above-mentioned drawing 10, when it summarizes, it is the processing which incorporates the searched additional information according to having asked the user for the bar code input, having performed retrieval of a database after making a user check the bar code number inputted by the bar code scanner 92 or the figure input, and the retrieval result having been judged to be O.K.

[0125] When the user corresponded to CD dubbed now about the additional information searched from the database and it checks (i.e., when O.K. actuation is performed to the retrieval result display (refer to drawing 13) of step F310), CPU11 advances processing to F312 from step F311, and saves the additional information searched from the database at RAM13 etc. And it stands by that dubbing of audio data (data of the all songs recorded on CD) is completed at step F313.

[0126] If dubbing of audio data is completed, it will progress to step F314 and the management file will be generated with the audio file formed on HDD15. That is, a management file including the physical management data as each audio file (each music) dubbed from one CD, for example, data size, file classification, an address pointer, time information, etc. like drawing 7 is set up. Moreover, at this time, since additional information is incorporated, it will also already record information, such as an album

title, a music name, and a persons-concerned name, in a management file. Furthermore, when the information which should be stored as related information files, such as image data, in the additional information searched and incorporated is included, it stores in HDD15 by considering the data as a related information file. Corresponding to the related information file created in this case, of course, related file information is added on a management file.

[0127] It will be in the condition that are managed by the management file after the audio file group dubbed from one CD adds additional information by this processing, as drawing 6 and drawing 7 explained, and the related information file as additional information is added depending on the case. And this ends a series of dubbing processings.

[0128] While being able to make exact additional information able to respond to an audio file, being able to make it able to store, being able to have it and being able to raise the function and dependability of the record regenerative apparatus 10 also in such an example of operation, the various advantages by using a bar code number which was mentioned above are acquired. [as well as the example of the above 1st of operation] And in the case of this 2nd example of operation, since bar code input and retrieval actuation are performed during dubbing, it is also being able to save the time amount concerning an input or retrieval. Therefore, it will become suitable, when database retrieval takes time amount, or in searching through the communication link with an information centre 1. Moreover, for a user, since a bar code input can be performed immediately after dubbing initiation, the advantage that it is not necessary to wait for a dubbing termination time on that spot for a bar code input is also generated.

[0129] 9. Describe the 3rd example including accounting control of operation as the example 3 of operation at the time of CD-HDD dubbing, next actuation at the time of CD-HDD dubbing realizable [with the above-mentioned record regenerative apparatus 10] similarly. Processing of CPU11 of this 3rd example of operation is shown in drawing 16 . In addition, in this example of operation, during dubbing activation of audio data, a database is searched according to a bar code input, in that it considers as the actuation which acquires additional information, it supposes that it is the same as that of the example of the above 2nd of operation, the step number same about the same processing as drawing 14 is attached, and explanation is omitted. . Namely, as for this 3rd example of operation, step F500 should be added to the 2nd example of operation.

[0130] Moreover, in the case of this example of operation, in the case of the display of the additional information retrieval result in step F310, as shown in drawing 15 , the check box 402 for making selectable the accounting information 401 about each additional information and additional information which a user needs is also displayed.

[0131] It explains from retrieval result presenting of the additional information of step F310. As a display of the additional information retrieval result of step F310, CPU11 makes a display 24 perform a display like drawing 15 , and progresses to step F311.

[0132] CPU11 stands by that required additional information is chosen by the user in step F311. That is, a user performs actuation which chooses desired additional information by the check box 402 based on accounting information 401. In the case of drawing 15 , the check box of an album title, an artist name, the title name of a truck 2, or words information is chosen by the user. Namely, it is in the condition of having been chosen that the additional information chosen by performing 30 yen accounting to a user is recorded on HDD15 by dubbing and coincidence. And if a user performs O.K. actuation, for example in the state of such selection, processing of CPU11 will progress to step F500.

[0133] In step F500, CPU11 performs accounting to a user. Various idea *** are connected to an accounting information network from an information centre 1, and the approach of accounting may be controlled so that a tariff is automatically transferred to a predetermined account from a user's account registered beforehand. For example, CPU11 records a user's accounting information on HDD15 at the time of step F500. And once etc. may transmit a user's accounting information to an accounting information network through a transmission line 3, and once etc., periodically, you may control in the moon, for example so that a tariff is automatically transferred to a predetermined account from a user's account.

[0134] If accounting is performed in step F500, processing of CPU11 will progress after F312, and will

be controlled to make only the additional information finally chosen by the user associate and record on the audio information dubbed by HDD15. This becomes the system which makes possible the usual not music distribution business but additional information distribution business. Here, additional information may be audio information, such as a voice of dynamic images, such as a text and not only a static image but a concert, a bonus track, and an artist.

[0135] As mentioned above, although the configuration and the example of operation as a gestalt of operation have been explained, an example of operation is further considered by Oshi. For example, you may enable it to perform a bar code input collectively about the audio file group (data from much CDs) of a large number already stored in HDD15. That is, the user performs the bar code input, specifying already stored CD dubbing data per album. Then, CPU11 performs retrieval processing according to the bar code number, adds the searched additional information to the management file corresponding to the data (audio file group) of specified CD album, or generates a related information file. Thus, if it goes, a user will become convenient in that can summarize a bar code input at a certain time, and it can be performed.

[0136] Moreover, although identification information of the goods title of CD was made into the bar code in the above-mentioned example, a record number, a manufacture code number, etc. may be used as identification information, for example. It consists of above-mentioned examples so that additional information may be acquired at the time of dubbing from the package media, such as CD, to the record regenerative apparatus 10, but as long as identification information is added, additional information may be made to be acquired from other servers at the time of distribution of the audio data from an information centre 1.

[0137] Moreover, it cannot be overemphasized that examples various also about the configuration as a record regenerative apparatus and a system configuration with other devices can be considered.

Although it is related with the audio data by which additional information was dubbed and he is trying for HDD15 to memorize in the above-mentioned example, it has a printer, for example and the printout of the jacket image and words data which are additional information may be made to be carried out. Or words data etc. read out and you may make it outputted as voice.

[0138]

[Effect of the Invention] While acquiring the additional information corresponding to the identification information based on the identification information inputted by the input means about the 1st storage after storing in case the data reproduced from the 1st storage (for example, CD) are made to store in the 2nd storage (for example, HDD) by the recording apparatus and the record approach of this invention or so that the above explanation may show, he is trying to make the additional information correspond to the data reproduced from the 1st storage. For example, additional information is related with the data read from the 1st storage, and is made to be recorded on the 2nd storage. That is, by using the identification information which can identify the contents of data (for example, product title) as a retrieval trigger, the exact additional information corresponding to the contents of data is acquired, it becomes possible to relate with data, and improvement in the function as equipment and improvement in dependability can be realized.

[0139] Moreover, an input means is inputting the identification information on the package with which the 1st storage's is contained, or the identification information on the 1st storage, and a user can input identification information easily. Moreover, by considering as the information which the 1st storage or its package is shown as a bar code, also about media, such as CD which has spread widely now (already sold), the function of this invention can be used and it becomes identification information with a suitable thing for a user. Since the further existing bar code systems (POS etc.) can be used, construction of a database is also easy. Since the input by the ten key is possible even if it can do an input easily and there is no bar code scanner if there is a bar code scanner, it is still more suitable for a user practically.

[0140] Moreover, it can have an additional information storage means (database), and additional information can be acquired easily and quickly by searching predetermined additional information from an additional information storage means based on the inputted identification information. Furthermore, the additional information corresponding to various package media etc. can come to hand by acquiring

additional information from a remote place based on the inputted identification information, for example, acquiring additional information from the database through a transmission line.

[0141] Moreover, by the accounting approach of this invention, the data read from the 1st storage based on directions of a user are recorded on the 2nd storage. Since accounting to a user is performed according to the additional information in case additional information is generated based on the identification information which identifies the 1st storage and the additional information is related with the data read from the 1st storage, The countervalue to additional information offer can be charged appropriately, and the suitable system for data utility can be realized.

[Translation done.]